



Knowledge, evidence
and learning for
development

Promotion of animal welfare in commercial agriculture

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Question

What evidence is available on the best ways to promote and improve farm animal welfare in commercial agriculture in developing countries within Africa and Asia?

- *Are there particular examples/case-studies of successful or failed programmes/initiatives that attempted to improve farm animal welfare in commercial agriculture in developing countries?*
- *What are the benefits of improving farm animal welfare in developing countries?*

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The K4D helpdesk service provides brief summaries of current research, evidence, and lessons learned. Helpdesk reports are not rigorous or systematic reviews; they are intended to provide an introduction to the most important evidence related to a research question. They draw on a rapid desk-based review of published literature and consultation with subject specialists.

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1. Overview

This rapid review synthesises findings from rigorous academic, practitioner, and policy references published in the past 10-15 years that discuss promotion of animal welfare in commercial agriculture. Animal welfare is a complex, multifaceted, international and domestic public policy issue with scientific, ethical, economic, legal, religious and cultural dimensions plus important trade policy implications.

Alongside various religious, ethical and philosophical bases for animal welfare, there is also recognition of the ties between animal welfare indicators and animal health. Disregard for animal welfare may lead to poor animal health – increased susceptibility of animal populations to disease and injury and poor quality or contaminated animal-based food products with resulting economic losses. Animal welfare is thus intrinsically related to other government concerns such as public health, food safety and long-term economic development.

The World Organisation for Animal Health (OIE) note that it is a responsibility that must be shared between governments, communities and the people who own, care for and use animals. Mutual recognition and constructive engagement among parties is considered necessary to achieve sustained improvements to animal welfare.

OIE is the primary international standard-setting organisation for veterinary matters and takes a strong science-based approach to defining animal welfare, adopting the following definition (OIE, 2008):

"Animal welfare" means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress.

Most discussions of animal welfare draw on this understanding of the scientific basis for animal welfare practices.

Implementation of standards globally at a uniform rate via regional initiatives is, however, not possible due to a number of factors: the socio-economic situations in developing, in-transition and developed countries; cultural and religious differences; and competing national priorities. However, it is possible to improve animal welfare by acknowledging it as a progressive longer term activity. Key messages include:

- Key to success is political support and the provision of resources, both cash and in-kind. In this latter regard, a number of countries, such as Australia and some countries of the EU, are providing assistance to the OIE and countries globally to progress the animal welfare agenda.
- Nongovernmental organisations such as the World Society for the Protection of Animals (WSPA)¹, which can play pivotal roles in improving animal welfare, are also providing support.
- Education, training, communication, legislation and research all have a part to play in improving animal welfare, as do the development of strategies at regional and national

¹ WSPA is now called World Animal Protection

level and the full cooperation of all parties in the implementation of animal welfare activities.

- The establishment of a strong and dynamic institutional relationship between animal welfare scientists and regulatory agencies is an important precursor to good animal welfare legislation.
- An important related factor is the ability to update legislation to keep pace with scientific developments; for that reason, principal national legislation may be kept more basic, with more detailed requirements set out in implementing regulations and other subsidiary legislation which can more easily be changed.
- Although recognition of animal welfare by the World Trade Organisation (WTO) appears limited, trade opportunities are created by bilateral or multilateral agreements negotiated by contracting countries. In such agreements, countries may consent to meet each other's animal welfare standards in order to secure markets. The European Union has indicated a willingness to develop trade opportunities for developing countries to market high-welfare products to Europe.
- The development, by the International Organization for Standardization (ISO), of Animal Welfare Management Technical Specifications², along with global private sector leadership by organisations such as Safe Supply of Affordable Food Everywhere (SSAFE) are also significant and serve to embed animal welfare into good practice processes.
- Whilst the major corporations can easily absorb the cost of investment in animal welfare, case studies highlight a question over the future of smaller farmers and whether they can meet the financial strain associated with investment in a poultry farming upgrade. Climate control housing, closed system and leading edge biosecurity technique, all present significant financial demands on the smaller farmers.

Promotion of animal welfare in Asia (Thailand) and Africa (Namibia) illustrates the benefits of improving animal welfare including; increasing the incomes of producers, processors and others employed in the livestock sector and associated services by enabling export and access to niche markets. This economic growth is having a positive impact on social stability in rural areas.

2. Animal welfare and agriculture

Background

According to the FAO³, livestock contributes 40% of the global value of agricultural output and supports the livelihoods and food security of an estimated 1.3 billion people. They continue that the livestock sector is one of the fastest growing parts of the agricultural economy. The growth and transformation of the sector is seen to offer opportunities for agricultural development, poverty reduction and food security gains, but the rapid pace of change also poses a number of risks, e.g. marginalising smallholders, risks to natural resources and human health and, importantly in the context of this research, animal welfare.

² <https://www.iso.org/obp/ui/#iso:std:iso:ts:34700:ed-1:v1:en>

³ <http://www.fao.org/animal-production/en/>

Increasing demand for livestock products and changing diets in growing economies has led to increases in livestock production, supported by major technological innovations and structural changes in the sector (Keats & Wiggins, 2014). This demand has been mostly met by commercial livestock production and associated food chains. The FAO conclude that efficient livestock production requires good management practices which include appropriate feeding and health care and the selection and development of breeds that are well adapted to the specific production environments.

According to the World Society for the Protection of Animals (WSPA, 2012: 1), animal welfare is increasingly important in the trade of animal produce, not least because it can provide an advantage in terms of access to markets. Meeting good standards of animal welfare 'from farm to fork' is considered part of a strategy to add value to animal-based food products and provide a stable source of income for both large and small-scale producers.

Defining animal welfare

The World Organisation for Animal Health (OIE) is the primary international standard-setting organisation for veterinary matters and takes a strong science-based approach to defining animal welfare, adopting the following definition (OIE, 2008):

"Animal welfare" means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress.

According to Mellor and Bayvel (2014), most discussions of animal welfare draw on this understanding of the scientific basis for animal welfare practices. The OIE guiding principles on animal welfare also reference the universally recognised "Five Freedoms", published in 1965 to describe the right to welfare of animals under human control. According to this concept, an animal's primary welfare needs can be met by providing:

- freedom from hunger, malnutrition and thirst;
- freedom from fear and distress;
- freedom from physical and thermal discomfort;
- freedom from pain, injury and disease;
- freedom to express normal patterns of behaviour.

The OIE animal welfare standards are not sanitary (health) measures but they have an important role in international trade because they are the only global, science-based standards agreed by trading nations. Harmonisation of measures with international standards is a WTO principle to facilitate safe trade and avoid unnecessary trade barriers; this is equally true of measures for animal welfare and for animal health.

Figure 1: International Standards on animal welfare (Source: OIE Website⁴)



As a complement to the 'Five Freedoms', 12 criteria for the assessment of animal welfare were identified by the Welfare Quality Project (WQP), a research partnership of scientists from Europe and Latin America funded by the European Commission⁵. The WQP aimed to develop a standardised system for assessing animal welfare – a system that would be implemented in Europe – and more generally to develop practical strategies and measures to improve animal welfare (Welfare Quality, 2007). The WQP criteria for the assessment of animal welfare were:

1. Animals should not suffer from prolonged hunger, i.e. they should have a sufficient and appropriate diet.
2. Animals should not suffer from prolonged thirst, i.e. they should have a sufficient and accessible water supply.
3. Animals should have comfort around resting.
4. Animals should have thermal comfort, i.e. they should neither be too hot nor too cold.
5. Animals should have enough space to be able to move around freely.
6. Animals should be free from physical injuries.
7. Animals should be free from disease, i.e. farmers should maintain high standards of hygiene and care.
8. Animals should not suffer pain induced by inappropriate management, handling, slaughter or surgical procedures (e.g. castration, dehorning).

⁴ <http://www.oie.int/en/animal-welfare/animal-welfare-at-a-glance/>

⁵ Welfare Quality Project website is no longer updated but does contain useful references, it has been replaced by the Welfare Quality Network.

9. Animals should be able to express normal, non-harmful social behaviours (e.g. grooming).
10. Animals should be able to express other normal behaviours, i.e. they should be able to express species-specific natural behaviours such as foraging.
11. Animals should be handled well in all situations, i.e. handlers should promote good human-animal relationships.
12. Negative emotions such as fear, distress, frustration or apathy should be avoided, whereas positive emotions such as security or contentment should be promoted.

Animal welfare in commercial agriculture

Global awareness, societal views and adverse publicity have led to greater recognition that animal welfare is a public policy issue and needs to be managed to improve the status of animals, contribute to human well-being and support production (OIE, 2017). Alongside various religious, ethical and philosophical bases for animal welfare, there is also recognition of the ties between animal welfare indicators and animal health. Disregard for animal welfare may lead to poor animal health – increased susceptibility of animal populations to disease and injury and poor quality or contaminated animal-based food products with resulting economic losses (FAO, 2010: 3). Animal welfare is thus intrinsically related to other government concerns such as public health, food safety and long-term economic development.

Findings from the global north suggest that in addition to ethical or socially responsible preferences, consumers link animal welfare indicators with food safety and quality (Harper and Henson, 2001). Consumer preferences therefore also create economic incentives for producers to meet animal welfare standards, as established by legislation or voluntary certification programmes. In addition, mobilised citizens and animal welfare advocates may exert pressure on governments to set and enforce animal welfare standards.

Agreeing on global animal welfare standards is, however, challenging. The perception of animal welfare or of what does or does not constitute an act of cruelty to animals differs from one region and culture to another. As do the types and importance of animal species that are used for livestock production and categories of livestock owners. It is important to note that different species play important roles for food production and income generation and have also other important non-food functions which must all be factored into animal welfare standards. Reaching a consensus is thus challenging (OIE, 2014: 3).

Animal welfare is a complex, multifaceted, international and domestic public policy issue with scientific, ethical, economic, legal, religious and cultural dimensions plus important trade policy implications. OIE note that it is a responsibility that must be shared between governments, communities and the people who own, care for and use animals. Mutual recognition and constructive engagement among parties is considered necessary to achieve sustained improvements to animal welfare (OIE, 2017).

Global developments in animal welfare

Public pressure, customer requirements and political interest mean the subject of animal welfare is increasingly becoming a global issue:

- at a governmental level, since 2005 the Member Nations of the OIE have adopted more than 100 pages of animal welfare standards as new text in the Terrestrial Animal Health Code (Terrestrial Code) (OIE, 2017a);
- the 2009 Lisbon Treaty incorporated an article on animal welfare⁶;
- in the corporate world, companies such as McDonald's and Burger King have set requirements for the welfare of animals in their supply chains (Fraser, 2006);
- in the financial world, the International Finance Corporation has called for animal welfare to be part of the business plan of livestock companies in which it invests (IFC, 2006);
- in the United Nations system, the Food and Agriculture Organisation (FAO) provides a weekly news service called 'Gateway to Farm Animal Welfare', which brings new developments to the attention of agricultural and veterinary authorities around the world⁷;
- at a national level, countries including Croatia, Malaysia, Peru, Puerto Rico, the Philippines, Chinese Taipei and many others have announced recent laws and programmes for the protection of animals (Vapnek & Chapman, 2010).

There have also been a number of initiatives to raise the profile of animal welfare and develop the evidence base for best practice including:

- the publication of scientific reports by the European Food Safety Authority (www.efsa.europa.eu);
- the implementation of training programmes such as Better Training for Safer Food (https://ec.europa.eu/food/safety/btsf_en);
- the Welfare Quality project (www.welfarequality.net);
- the AWIN project (www.animal-welfare-indicators.net);
- the CALLISTO project (Companion animals multi-sectorial inter-professional interdisciplinary strategic think tank on zoonoses) (www.callistoproject.eu);
- the Coordinated European Animal Welfare Network project (www.euwelnet.eu).

The OIE standards, although not mandatory, provide many countries with their first explicit and officially supported standards for animal welfare.

International trade and animal welfare

Although the place of animal welfare standards in the World Trade Organisation (WTO) multilateral trade context remains under discussion, trade relations can serve as a vehicle for aligning best practices in agriculture, and bilateral agreements can include harmonised approaches to animal welfare.

⁶ Animal sentence is referenced in the Lisbon Treaty "In formulating and implementing the Union's agriculture, fisheries, transport, internal market, research and technological development and space policies, the Union and the Member States shall, since animals are sentient beings, pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage."

⁷ http://www.fao.org/ag/againfo/themes/animal-welfare/aw-awhome/en/?no_cache=1

Bowles et al (2005) note that the relationship between measures to raise standards on the protection and welfare of farm animals and the multilateral trading system has become increasingly important since the General Agreement on Tariffs and Trade was incorporated into the Agreement establishing the WTO in 1995. Although it is often stated that the WTO suite of agreements allows a country to pursue and apply its standards where these do not have trade-related provisions, there is invariably still a direct consequence from raising welfare provisions.

Further to this, the RSPCA (2017) comment that animal welfare has only recently begun being considered by the WTO; its first animal welfare dispute was in 2012. This decision allowed the EU to continue its trade import ban on seal products despite it being a trade barrier, allowing it on moral grounds. However many trade bans have not been upheld (RSPCA, 2017).

According to Stevenson (2012: 1), a major impediment to the adoption of stronger animal protection legislation by the EU (and other countries) is the free trade legislation of the WTO. The conventional view is that while a WTO member country may prohibit the use of cruel farming practices in its own jurisdiction, it cannot restrict the import of products derived from these practices in other countries. In effect, this makes it difficult for any country to prohibit livestock products as it runs the risk that its own farmers will be undermined by lower welfare, and hence cheaper, imports.

Although recognition of animal welfare by the WTO appears limited (RSPCA, 2017), trade opportunities are created by bilateral or multilateral agreements negotiated by contracting countries. In such agreements, countries may consent to meet each other's animal welfare standards in order to secure markets. The EU has indicated a willingness to develop trade opportunities for developing countries to market high-welfare products to Europe⁸.

National legislation

The establishment of a strong and dynamic institutional relationship between animal welfare scientists and regulatory agencies is an important precursor to good animal welfare legislation. An important related factor is the ability to update legislation to keep pace with scientific developments; for that reason FAO (2010) comment that principal national legislation may be kept more basic, with the more detailed requirements set out in implementing regulations and other subsidiary legislation which can more easily be changed (FAO, 2010: 9).

Countries can choose to regulate animal welfare in a variety of ways. The strongest is to adopt constitutional provisions that recognise animal welfare principles or to provide another constitutional basis for the protection of animal welfare. Countries that adopt a constitutional provision on animal welfare may also enact national legislation on animal welfare, while other countries may enact only legislation (FAO, 2010).

There is much diversity in national legislation on animal welfare. Animal welfare provisions may appear in a free-standing animal welfare law or may form part of a broader law on animal health and welfare or veterinary matters in general. The most common form of legislation around the world criminalises cruelty against animals. Many nations limit animal welfare statutes to certain

⁸ See Communication from the Commission to the European Parliament and the Council on a Community Action Plan on the Protection and Welfare of Animals 2006-2010 <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52006DC0013>

animals used in scientific research or entertainment, whereas for farm animals they regulate only slaughter methods.

Increasingly, more nations and sub-national jurisdictions are passing laws or adopting provisions that explicitly set out animal welfare principles and extend coverage to farm animals, not just animals used for research, entertainment or companionship. This type of animal welfare legislation has been passed in most countries in Europe, as well as in Costa Rica (Animal Welfare Act 1994), New Zealand (Animal Welfare Act 1999), the Philippines (1998), Taiwan Province of China (1998), Tanzania (2008) and several others. Some countries employ non-binding instruments such as national animal welfare strategies or model welfare codes in lieu of binding legislation (FAO, 2010: 27).

Private-sector initiatives and public/private partnerships

The development, by the International Organization for Standardization (ISO), of Animal Welfare Management Technical Specifications⁹, along with global private sector leadership by organisations such as Safe Supply of Affordable Food Everywhere (SSAFE)¹⁰ are also significant and serve to embed animal welfare into good practice processes.

Standards created by corporations are also influential, partly because the companies generally require compliance as a condition of purchase. For example, some global chain restaurant companies require local suppliers in non-industrialised countries to pass animal welfare audits at slaughter plants (Fraser, 2014). As a result, adherence to animal welfare standards is increasingly seen as part of normal business practice.

Higher animal welfare standards are also increasingly seen to be a prerequisite to enhancing business efficiency and profitability, satisfying international markets, and meeting consumer expectations. For example, a third of the leading global food retailers with turnovers ranging from US\$25-250 billion, have public animal welfare policies and businesses that address or enhance animal welfare are likely to win or retain a competitive advantage in the global marketplace in a variety of ways (IFC, 2014: 1):

- costs savings due to more efficient production processes that enhance animal welfare;
- realising growing market opportunities for food produced in animal welfare friendly systems;
- becoming the producer of choice for retailers and consumers concerned with animal health and welfare, food safety and quality, human health, and the environment.

It is anticipated that private standards will continue to play an important role but that they will, increasingly, reflect and take note of OIE standards as international reference benchmarks.

Governments are also encouraging public/ private-sector partnerships (e.g. SSAFE), to enable more efficient and effective use of limited resources and to enable progress to be made on strategically important projects which otherwise might not advance. This is seen to be a positive

⁹ <https://www.iso.org/obp/ui/#iso:std:iso:ts:34700:ed-1:v1:en>

¹⁰ <http://www.ssafefood.org/>

trend, with animal welfare presenting opportunities rather than threats to business profitability and sustainability.

Civil society initiatives

A number of NGOs, such as WSPA (latterly World Animal Protection) and Compassion in World Farming also continue to exert a positive influence via various initiatives and projects, including:

- the proposed Universal Declaration on Animal Welfare¹¹;
- the Animal Protection Index project (to rank the animal welfare policies of national governments using a set of core indicators)¹²;
- Business Benchmarking for Animal Welfare (www.bbfaw.org).

A number of regional and global initiatives have therefore emerged to provide guidance on acceptable practices to actors ranging from individuals caring for animals on farms to large-scale commercial enterprises providing animal-based products from different livestock systems.

Promoting animal welfare in commercial agriculture in developing countries

The IFC (2014) note that developed countries tend to have more financial resources and infrastructure than developing countries to support improvements in animal welfare, including improvements to housing, feeding systems, and transportation; addressing problems such as drought, cold, and predators; and strengthening animal welfare research programmes. Developed countries are likely to have a greater number of veterinarians and animal production specialists, more developed industries for vaccine and animal health supplies, and enhanced education and industry awareness regarding animal welfare (IFC, 2014: 11).

Although developing countries often face significant challenges with regard to resources, knowledge, research, and awareness around animal welfare, they can benefit from the experiences and technology of developed countries. Emerging market producers can position themselves to capitalise on increased market premiums for animal welfare-credentialed products in developed countries where consumer demand and legal requirements related to animal welfare may be present. As awareness about animal welfare issues increases globally, livestock producers in developing countries may be able to benefit from demand in their home markets (IFC, 2014: 11).

Implementation of standards globally at a uniform rate via regional initiatives is, however, not possible because of factors such as the socio-economic situations in developing, in-transition and developed countries; cultural and religious differences; and national priorities. However, it is possible to improve animal welfare by acknowledging it as a progressive longer term activity – ‘evolution rather than revolution’ – and will require a wider understanding and acceptance of the welfare needs of animals to ensure gains made are sustained (Murray et al., 2014: 81). Key to success is political support and the provision of resources, both cash and in-kind. In this latter

¹¹ <https://www.globalanimallaw.org/database/universal.html>

¹² https://api.worldanimalprotection.org/?_ga=2.164411519.1394046766.1519636167-1872778072.1519636167#

regard, a number of countries, such as Australia and some countries of the EU, are providing assistance to the OIE and countries globally to progress the animal welfare agenda. Nongovernmental organisations such as the WSPA, which can play pivotal roles in improving animal welfare, are also providing support. Education, training, communication, legislation and research all have a part to play in improving animal welfare, as do the development of strategies at regional and national level and the full cooperation of all parties in the implementation of animal welfare activities.

It is also important to note that the trend towards industrial livestock systems may occur at the expense of diminishing market opportunities and competitiveness of small rural producers who may not be able to compete with the low prices of large-scale industrial production. Similarly, strict food regulations constitute barriers that often prevent poor farmers from entering formal markets because of the costs involved in certification. Pastoralists may also be pushed on to less fertile lands, endangering their way of life and requiring alternative employment and income (Parente & van de Weerd, 2012: 9).

3. Case Studies

The FAO (2010) comments that because livestock are important to human welfare – as a source of nutrition and income – concern for animal welfare is linked to concern for human needs. This is particularly the case in countries with developing economies, where current and expected population increases are putting pressure on food security and economic growth (FAO, 2010). Increased food animal production is often a necessary part of attaining both goals. In newly industrialised countries, a growing middle class means increasing domestic demand for meat and animal by-products (Delgado, 2003; Keats & Wiggins, 2014), even where these may cost more due to compliance with animal welfare standards. A key challenge is to find ways to increase food animal production while simultaneously improving or ensuring good animal welfare and protecting food security (FAO, 2010).

Africa

According to Molomo and Mumba (2014: 47), in Africa, livestock represent an average of 30% of the agricultural gross domestic product (GDP) and about 10% of the national GDP, and 250 to 300 million people depend on livestock for their income and livelihood.

The pattern of animal welfare understanding and management is changing rapidly with OIE initiatives being major drivers of an improved awareness of animal welfare issues and their political importance. However, this change is occurring mainly by ‘top-to bottom’ or ‘top-down’ approaches, and has not yet permeated through into society generally or, indeed, into wider political circles. Furthermore, most individuals who are driving animal welfare policy change in Africa overall, and in Southern African countries in particular, have had no formal training or education in animal welfare issues.

Case 1: Namibia’s beef industry

Agriculture, and especially livestock farming, is a key sector in Namibia. There are estimated to be at least 2.5 million cattle in Namibia, of which around 850,000 are commercially reared (Bowles et al., 2005: 784-785). Red meat production and livestock products provide 85-90 % of the nation’s total agricultural income. Indigenous cattle meat was Namibia’s highest value

agricultural product in 2008, with a value of US\$106m; and its second highest export earner (US\$46m), after grapes (OIE, 2011).

The export market is important to Namibia's trade balance as well as to the beef industry. Exports of processed meat products are expected to rise with the introduction of benefits for manufacturers and exporters. Although the main trading partners are the EU, South Africa and Japan, the EU is the most important destination. Namibia overtook Botswana in the early 2000s as the market leader for beef exports to the UK, mainly because the industry regarded Namibian beef as being of superior quality and because of the problems of foot and mouth disease in Botswana. The quality issue of the meat is connected to the Farm Assured Namibian Meat Scheme (FANMEAT), which guarantees certain animal welfare and veterinary standards (Bowles et al., 2005: 785).

The Ministry of Agriculture, Water and Forestry is the core ministry on animal health and welfare. The veterinary department is organised as a hierarchy, with clear lines of command. Control activities at farm level are performed by teams of animal health technicians (AHTs) and official veterinarians (OVs), who operate from a network of 17 State Veterinary Offices (SVOs) distributed throughout the country. The Namibia Veterinary Services have been evaluated on compliance to animal welfare requirements for export to Europe.

The beef industry is regulated by the government-owned and privately financed Meat Board of Namibia, which links the industry with its customers and is responsible for the development of the industry and its health and welfare standards. The Meat Board also manages FANMEAT. The abattoirs used for export are operated by Meatco, an independent company that is jointly owned by the government and the private sector and that uses technology to ensure that traceability is ensured. FANMEAT was initiated by government decree in September 1999 to meet EU requirements for a traceability and welfare scheme (Bowles et al., 2005: 785).

Applying farming standards that include traceability, quality, and high levels of animal welfare is helping to increase the incomes of producers, processors and others employed in the livestock sector and associated services by enabling export and access to niche markets. This economic growth is having a positive impact on social stability in rural Namibia. The standards ensure complete traceability of meat products. A number of abattoirs that process the meat are inspected and approved by European Union and South African authorities and are in the process of being approved by the United States Department of Agriculture. Extensive grazing means all animals are raised on natural pastures without the use of preventative antibiotics, hormones, or feed of animal origin.

The farming standards include provision for animal welfare throughout production, transport and slaughter. This works with the country's wider strategy of moving towards the export of 'value added' products rather than live animals. This evolution will reduce the long-distance transport of animals for slaughter – a recognised and major animal welfare problem (WSPA, 2013).

All producers are encouraged to meet the standards, which assure export-level quality and traceability and are monitored by DVS district offices. They are continuously updated in accordance with requirements set by importing countries and discerning overseas consumers and retailers, and have contributed to an ever-increasing international demand for quality Namibian meat products (WSPA, 2013).

The WSPA (2013) conclude that the introduction of the FANMEAT standards – which set clear and measurable quality criteria for the Namibian livestock and meat sector - has:

- assisted Namibia's livestock industry in marketing its products and enabling access to key international markets, economically benefiting both small and large-scale producers;
- provided important guidance to the country's livestock producers on how to keep cattle healthy and productive, cutting cases of illness and improving animal welfare;
- encouraged better stewardship of the land and protected the environment by putting a focus on and offering advice regarding the careful management of pastureland;
- created a system of traceability that safeguards human health and gives international consumers product confidence, creating 'added value' for both local and foreign markets;
- demonstrated how the collaboration of national veterinary services and the private sector can contribute to and improve animal welfare standards.

Asia

A key driver of improved animal welfare practices in countries of the region is the desire to fulfil the export potential of livestock and livestock products and to enter the global market. Importing countries expect acceptable livestock transportation, handling and slaughter practices to be in place as well as a range of biosecurity and health conditions. Both governments and private companies have key roles to play in ensuring the implementation of acceptable animal welfare standards.

According to Murray et al (2014: 79) regional members of OIE have reported on national animal welfare developments and achievements. These include, but are not limited to:

- Malaysia: Malaysia was the host of the Third OIE Global Conference on Animal Welfare, developed the Malaysian Animal Welfare Policy and Strategy, and is developing a Centre of Excellence for Animal Welfare.
- Thailand: The Thai Government is finalising the Bill on Cruelty Prevention and Animal Welfare Management and has established the Animal Welfare Sub-committee. The Thai Broiler Processing Export Association is also improving animal welfare education through the employment of poultry welfare officers.
- Indonesia: Indonesia conducts biannual national animal welfare meetings, and is undertaking policy developments for animal housing and standards and guidelines for production of animals and wildlife.
- Republic of Korea: Guidelines for free-range farm certification for layer hens, pig farms, broiler chickens and cattle are being developed and implemented, and the Animal Protection and Welfare Division has been established in the Animal and Plant Quarantine Agency of Korea.
- China: Three standards are being produced on the production, transport and slaughter of farm animals, and the Ministry of Agriculture is researching the development of a Chinese national animal welfare strategy, particularly focusing on farm animal welfare.
- Bhutan: The 2001 Livestock Act of the Kingdom of Bhutan has been reviewed and the Project for National Dog Population Management and Rabies Control (a joint initiative with the Humane Society International) is now in its second phase.

Case 2: Thailand's broiler chicken industry

Agricultural production employs a significant proportion of the Thai labour force and contributes significantly to the country's GDP. Although rice remains the largest agricultural export its importance has declined significantly (Bowles et al., 2005: 786-787), with the poultry industry now a very significant export earner. Agricultural and food industries are crucial to Thailand's aim to be the "kitchen of the world", a key government policy. Thailand was the world's 12th largest food exporter in 2012, with total shipments of 90bn baht (US\$2.9bn) according to the National Food Institute (IPSOS, 2013: 3). Increasing the scale of production by industrialising farms was a key structural reform that aimed to meet growing demand for poultry while controlling costs. The reform led to consolidation within the industry, which saw the average size of commercial farms increase while the number of producers declined (IPSOS, 2013: 6).

Commercial broiler production started in the 1970s and has increased considerably since. There have been a number of driving factors for this, including increased export demand for chicken meat, driven by health concerns about the beef industry, namely, the effects of bovine spongiform encephalopathy and foot and mouth disease.

Historically the industry has been regulated through the Department of Livestock Development (DLD) under the Bureau of Quality Control of Livestock Products and the Bureau of Livestock Standards and Certification. These bodies are responsible for quality control and the DLD has issued a number of standards, including for animal health, farm management and the environment. The tenet behind these standards is to guarantee hygiene standards and be in a position to offer an added-value range, as the industry is very export focused, a trend that is increasing (Bowles et al., 2005: 786).

The development and implementation of animal welfare standards has been supported by organisations such as the Thai Broiler Processing Exporters Association established in 1991 to act as a regulating and service agency for Thai chicken meat producers and exporters. The association has sought to establish the Thai broiler industry as a provider of premium grade chicken products to customers globally (including Japan, Singapore, Hong Kong, South Korea, the Middle East, EU, South Africa etc.).

The Department for Livestock Development issued new farm standards in 2000 requiring all broiler farms producing for export to convert into closed systems. These regulations were more strictly enforced after the 2004 avian flu outbreak. Currently, about 7,000 of the 10,000 broiler farms nationwide meet the department's new standards. Most integrated broiler farms have now upgraded to these new standards which ensure higher levels of safety, and the Thai poultry industry as a whole has adopted more stringent control systems. Only about 5% of broiler producers raise their poultry with minimal to low biosecurity. The breeds of chicken most commonly bred in backyard farms are highly susceptible to some common chicken diseases such as Newcastle disease, fowlpox, fowl cholera and pasturellosis. These poultry producers usually rely on chemical solutions, such as vaccinations, antibiotics and antiseptics to prevent or cure these diseases. Thailand's animal health market was valued at 23bn baht last year (IPSOS, 2013). With global food demand expected to rise by 3-5% a year, the local animal health market is forecast to grow by 5% a year, according to the Animal Health Product Association (IPSOS, 2013).

Although the export market is dominated by Asia, the EU is increasing its market share. Thailand has a number of approved processing plants for export into the EU; Germany, the Netherlands

and the UK take the greatest volumes. The major integrated suppliers are segregating export production farms from domestic farms and have switched to source their live broiler production only from their own farms and reliable contracting farms. They have also been looking to separate poultry feed from other feed production and may switch to raising all broilers in-house as a safety procedure and to reduce production costs. Some processors are able to satisfy specific requirements such as meat free of antibiotics, or birds fed with no animal protein. The integrated companies must comply with international standards such as Good Manufacturing Practice (GMP) and Hazard Analysis and Critical Control Point procedures (HACCP) as their output is primarily for export markets (Bowles et al., 2005: 787).

Thailand's poultry industry has successfully recovered from the 2004 avian flu outbreak and returned to dynamic growth. A positive outcome from the outbreak was that it forced the Thai poultry industry to adopt new farming practices, and led to a higher rate of adoption modern farming facilities, and industry restructure. With its new industry structures, Thailand will undoubtedly increase its production capacity. The poultry industry has shown that it has a prosperous future, partly driven by the reopening of EU markets and a greater presence in the Japanese and South Korean markets. To sustain and grow the market share in these high value markets it is inevitable that there must be a greater level of investment in new climate control housing and leading edge biosecurity techniques in the Thai poultry industry. Whilst the major corporations can easily absorb the cost of this investment, there is a question over the future of smaller farmers and whether they can meet the financial strain associated with investment in a poultry farming upgrade. Climate controlled housing, closed systems and leading edge biosecurity techniques, all present significant financial demands on the smaller farmers. Whilst these farmers only account for approximately 10% of poultry production, they are 90% of the poultry farmer population and therefore require consideration (IPSOS, 2013: 10).

4. Organisations working on animal welfare issues

European Commission (Welfare Quality Project)

<http://www.welfarequality.net/everyone>

This research programme was designed to develop European standards for on-farm welfare assessment and product information systems as well as practical strategies for improving animal welfare. The standards for on-farm welfare assessment and information systems have been based upon consumer demands, the marketing requirements of retailers and stringent scientific validation. The key was to link informed animal product consumption to animal husbandry practices on the farm. The project therefore adopted a “fork to farm” rather than the traditional “farm to fork” approach”.

Water Quality Network

<http://www.welfarequalitynetwork.net/network/45848/7/0/40>

The Welfare Quality Network is a collaborative project of a group of former partners of the Welfare Quality Project. The Network focuses on scientific exchange and activities to contribute to the further development of the Welfare Quality animal welfare assessment systems. The Welfare Quality Network also aims to provide relevant knowledge and services to support actors in animal production chains who would like to implement or use the Welfare Quality animal welfare assessment systems. Network activities focus on the following main areas: management of the system and support instruments (including training in their use by Network partners);

maintenance of the system; upgrading the system; promoting stakeholder involvement; and prioritising and facilitating research.

Food and Agriculture Organisation (FAO)

<http://www.fao.org/animal-production/en/>

FAO's programme focuses on sustainable development of dairy, beef, pig and poultry as well as small ruminants production and draught animals. It takes into account, among others, animal health and welfare related issues, the responsible use of animal genetic resources, sustainable animal nutrition and feeding.

It provides advocacy, awareness raising, information, knowledge, guidance and technical support to help produce high quality animal products safely, efficiently and responsibly, while improving people's livelihoods and meeting citizens' demands. FAO also works alongside governments and farmers, responding during and after livestock emergencies and promotes dialogue amongst public, private and civil society partners whose ultimate goal is responsible, sustainable livestock production.

International Finance Corporation

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_gpn_animalwelfare_2014

IFC is committed to working with clients to reduce losses, increase productivity, and/or access new markets through the application of sustainability principles, including animal welfare standards. IFC is committed to supporting clients in a responsible and forward-looking approach to traditional livestock production (dairy, beef, broiler chickens, layer chickens, pigs, and ducks) and aquaculture in intensive and extensive systems to, among other things, help producers access and maintain entry to high quality and value market segments. IFC has developed Good Practice Notes which describes a range of animal welfare good practice and complements IFC's Performance Standards on Environmental and Social Sustainability.

International Standards Organisation

<https://www.iso.org/obp/ui/#iso:std:iso:ts:34700:ed-1:v1:en>

ISO/TS 34700 represents the culmination of a joint effort between ISO and the OIE following the cooperation agreement signed in 2011 between the two organizations. The new technical specification is intended to support the implementation of relevant practices to ensure animal welfare in livestock production systems. It will be a way for business operators in the food supply chain to demonstrate their commitment to animal welfare management. The purpose of this document is to ensure the welfare of animals raised for food or feed production around the world through the following objectives:

- to provide a management tool for the implementation of the animal welfare principles of the OIE TAHC (Section 7);
- to provide guidance for the implementation of public or private animal welfare standards and relevant legislation that meet at least the OIE TAHC (Section 7);
- to facilitate the integration of animal welfare principles in business-to-business relations.

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